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CLASSIFIED MESSAGE

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SUBJECT: WEEKLY STATUS REPORT

1. QUALIFICATION OF LMSD-DEVELOPED RELEASING TIE RODS IN SHOCK AND VIBRATION WAS COMPLETED ON 11 JANUARY 1960. NO DIFFICULTIES WERE EXPERIENCED.

2. IN ABOVE QUALIFICATION TEST, FLIGHT CONFIGURATION WAS CLOSELY SIMULATED. INSTRUMENT NO. 5 WAS USED WITH 10 POUNDS OF PAYLOAD AND 200 FEET OF LEADER. AFTER VIBRATION AND SHOCK IN ROLL, PITCH AND YAW, INSTRUMENT WAS OPERATED. NO MECHANICAL OR ELECTRICAL MALFUNCTIONS WERE ENCOUNTERED. NO PAYLOAD WELDING OR BREAKAGE HAS BEEN DETECTED AND PREVIOUS OUT-OF-PHASE SHUTTLE CONDITIONS HAVE NOT REOCCURRED. SHUTTLES WERE INSTRUMENTED AND INSTRUMENTATION RECORDS SHOW EXCURSIONS LESS THAN ONE INCH WHICH ARE OF NO CONSEQUENCE FOR SUCCESSFUL INSTRUMENT OPERATION.

3. CORONA SUBSYSTEM 9006 (FTV 1052) COMPLETED VIBRATION TESTING ON 9 JANUARY. HATS TEST WAS COMPLETED AT 2400 HOURS 9 JANUARY. BUYOFF WAS COMPLETED ON 10 JANUARY AND UNIT WAS SHIPPED

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TO BASE. LAUNCH DATE IS 26 JANUARY.

4. CORONA SUBSYSTEM 9007 (FTV 1054) IS NOW BEING INSTRUMENTED FOR ACCELERATION TESTING DURING THE PERIOD 14-16 JANUARY AT LMSD. FLIGHT INSTRUMENTATION WILL BE COMPLETED AFTER ACCELERATION TEST. BUYOFF IS SCHEDULED FOR 1 FEBRUARY AND LAUNCH IS SCHEDULED FOR 18 FEBRUARY.

5. INSTRUMENT NO. 14 COMPLETED ACCEPTANCE VIBRATION TESTS ON 6 JANUARY AND WILL BE SHIPPED TO WEST COAST ON 12 JANUARY.

6. MAIN PLATE DEFLECTION TESTS WERE COMPLETED AT BOSTON ON 4-5 JANUARY. IN THIS TEST DEFLECTIONS OF INSTRUMENT MAIN PLATE WERE INTRODUCED THROUGH THE TIE RODS AND MAIN DRIVE MOTOR AVERAGE CURRENT MEASURED. TENSION, COMPRESSION, AND COMBINED TENSION-COMPRESSION FORCES INTRODUCED. TESTS SHOW AT 60/1000 DEFLECTION IN COMPRESSION MAIN DRIVE MOTOR STALLS. AT 60/1000 DEFLECTION IN TENSION, MAIN DRIVE MOTOR CURRENT CHANGED VERY SLIGHTLY FROM ZERO DEFLECTION CONDITION WITH COMBINED TENSION-COMPRESSION FORCES AND 60/1000 DEFLECTION IN EACH OPPOSING SET OF RODS, MAIN DRIVE MOTOR DREW TWO TIMES CURRENT AND LABORED. FIGURE OF 60/1000 DEFLECTION IS IN EXCESS OF DEFLECTIONS ESTIMATED FOR ASCENT AND ORBITAL CONDITIONS AND IT MAY BE CONCLUDED THAT INSTRUMENT SHOULD NOT STALL WITH 42/1000 MAXIMUM DEFLECTIONS INDUCED BY STIFF TIE RODS.

7. PAYLOAD TESTING PROGRAM CONTINUED AT BOSTON USING POLYESTER MATERIALS FURNISHED BY MR ED GREEN. RESULTS FOR WEEK OF 4 JANUARY ARE AS FOLLOWS:

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A. DYNAMIC TENSILE TEST - AT VACUUM OF TEN TO THE MINUS FIVE IN. HG, UNABLE TO INDUCE BREAKAGE OF 2.5 MILS OR 4 MILS THICK POLYESTER OVER CORNCOB SKEW ROLLER AT LIMIT OF TEST MACHINE. CORNCOB ROLLERS WILL BE REMOVED AND REPLACED BY HELICAL ROLLERS AND TESTING RESUMED.

B. FOLDING ENDURANCE TEST - WITH 4 MIL THICK POLYESTER AT SEA LEVEL AND 40 PER CENT RELATIVE HUMIDITY, COATING CRACKED AT 6900 FOLDS AND BROKE AT 11,000 FOLDS. WITH 2.5 MILS THICK POLYESTER, COATING CRACKED AT 5700 FOLDS AND MATERIAL BROKE AT 9600 FOLDS.

C. STATIC TENSILE STRENGTH TEST - 1.5 MILS POLYESTER BROKE AT 180 POUNDS LOAD, BREAKING ELONGATION OF 100 PER CENT, AT SEA LEVEL. NO INDICATION OF SEPARATING OR PEELING OF EMULSION AND PELLOID LACKING AT BREAKING POINT. WITH 4 MIL THICK POLYESTER UNABLE TO CAUSE BREAKAGE AT 260 POUNDS WHICH IS LOAD LIMIT OF TESTER.

D. MOISTURE DYNAMICS TEST - 2.5 MILS THICK MATERIAL LOSES 2.25 PER CENT WATER GOING FROM 60 PER CENT RELATIVE HUMIDITY TO ZERO PER CENT R.H. 90 PER CENT EQUILIBRIUM TIME EQUAL 15 MINUTES. 4 MILS THICK MATERIAL LOST 1.4 PER CENT WATER AND EQUILIBRIUM TIME WAS 10 MINUTES.

E. 250 FEET OF 4 MIL MATERIAL WAS RUN THROUGH INSTRUMENT NO. 5 AND RETURNED TO IR [] ON 5 JANUARY. TRACKING AND TRANSPORT APPEARED NORMAL.

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8. FLIGHT SCHEDULE PLANNED FOR BALANCE OF "C" FOLLOWS:

FTV 1055/9008 - MARCH 8
FTV 1056/9009 - MARCH 22
FTV 1057/9010 - APRIL 5
FTV 1058/9011 - APRIL 19
FTV 1059/9012 - MAY 3

9. FLIGHT SCHEDULE PLANNED FOR "C" PRIME FOLLOWS:

FTV 1061/9013 - MAY 24
FTV 1062/9014 - JUNE 7
FTV 1101/9015 - JUNE 22
FTV 1103/9016 - JULY 19
FTV 1105/9017 - OCTOBER 11
FTV 1103/9018 - OCTOBER 25
FTV 1109/9019 - NOV 3
FTV 1110/9020 - NOV 22

THIS SCHEDULE IS CURRENTLY IN JEOPARDY DUE TO REPORTED
SIX WEEK SLIP IN DELIVERY OF MARK (ROMAN) IV RECOVERY CAPSULES.
LMSD AND GE MANAGEMENT NOW INVESTIGATING NECESSARY ACTION TO
RECOVER SLIPPAGE.

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